

# **Multuser Detection for Wireless Communications Systems in the Presence of Interference**

## **ABSTRACT OF THE DISCLOSURE**

System and method for detecting transmissions from multiple users in a digital wireless communications system in the presence of interference. A preferred embodiment comprises derotating a received signal by a specified amount, determining channel estimates, which can include the determination of the number of users (interferers plus a desired user), and extracting information transmitted by the desired user from the received signal. Successive and parallel multuser detection schemes are provided for extracting the information from the received signal.